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PTO/SB/05 (4/98)  
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# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Attorney Docket No. HE01-003  
First Inventor or Application Identifier Randy Henry  
Title GOLF CLUB SET  
Express Mail Label No. EJ036460896US

PTO/SB/05 (4/98)  
Approved for use through 09/30/2000. OMB 0651-0032  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

07/23/99

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents  
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- ☒ \* Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
- ☒ Specification [Total Pages 15]  
(preferred arrangement set forth below)
  - Descriptive title of the Invention
  - Cross References to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to Microfiche Appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
- ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 3]
- Oath or Declaration [Total Pages 2]
  - ☒ Newly executed (original or copy)
  - ☐ Copy from a prior application (37 C.F.R. § 1.63(d))  
(for continuation/divisional with Box 16 completed)
    - ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

- ☐ Microfiche Computer Program (Appendix)
- Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
  - ☐ Computer Readable Copy
  - ☐ Paper Copy (identical to computer copy)
  - ☐ Statement verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

- ☒ Assignment Papers (cover sheet & document(s))
- ☒ 37 C.F.R. § 3.73(b) Statement (when there is an assignee) ☒ Power of Attorney
- ☐ English Translation Document (if applicable)
- ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
- ☐ Preliminary Amendment
- ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
- \* Small Entity Statement(s) ☐ Statement filed in prior application, Status still proper and desired (PTO/SB/09-12)
- ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
- ☒ Other: Check in the Amount of \$429

\* NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: \_\_\_\_\_ / \_\_\_\_\_

Prior application information: Examiner \_\_\_\_\_ Group / Art Unit: \_\_\_\_\_

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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors ..... Randy Henry  
 Attorney's Docket No. .... HE01-003  
 Title: **Golf Club Set**

## VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) and 1.27(c)) - SMALL BUSINESS CONCERN

I hereby declare that I am

- ☐ the owner of the small business concern identified below:  
☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: Henry-Griffitts, Inc.

ADDRESS OF CONCERN: P.O. Box 1630, Hayden Lake, ID 83835-1630

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and referenced in 37 CFR 1.9(d), for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled "Golf Club Set" by inventor(s) Randy Henry, which is being filed concurrently herewith.

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below\* and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

\*Note: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME:

ADDRESS:

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

NAME:

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☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

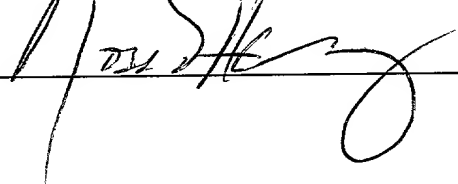
I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name of Person Signing Ross D. Henry

Title of Person Other Than Owner President

Address of Person Signing P.O. Box 1630, Hayden Lake, ID 83835-1630

Signature  Date 4-19-99

442626

**IN THE UNITED STATES PATENT  
AND TRADEMARK OFFICE**

**APPLICATION FOR LETTERS PATENT**

**GOLF CLUB SET**

\* \* \* \* \*

**INVENTOR:**

**RANDY HENRY**

**ATTORNEY'S DOCKET NO. HE01-003**

036460896US

## Field of the Invention

This invention pertains to golf clubs, and in particular to a set of golf clubs having an increased range of club lengths.

## Background

A standard prior-art set of golf clubs typically includes a set of irons, as well as woods. The irons are typically numbered starting with 1 and increasing through 9, although many sets of golf clubs do not include a 1-iron or a 2-iron as standard. Also, many sets include only the odd numbered irons. Typically included with the irons are a pitching wedge, which follows the 9-iron, at least one sand wedge, which follows the pitching wedge, and a lob wedge, which follows the sand wedge(s). Of course, not all club sets include every listed club.

The golf clubs in a prior art set are differentiated from one another by the club length between adjacently numbered clubs of one-half inch or less. That is, as the number of the golf club gets higher, the length of the club gets shorter. Further, as the club number gets higher, the weight of the golf club head increases, and the lie angle of the club increases. The lie angle of prior art golf clubs increases by one-half of a degree between adjacent clubs. For example, a 5-iron has a lie angle of 61 degrees, while a 6-iron has a lie angle of 61.5 degrees. However, due to the difficulty of manufacturing a one-half degree lie angle, some manufacturers will only increase the lie-angle on every other club, in which case the increase is one degree on alternating clubs. For example, a 5-iron will have a lie angle of 61 degrees, a 6-iron will also have a lie angle of 61 degrees, while a 7-iron will have a lie angle of 62 degrees.

## Summary of the Invention

A set of golf clubs having a club length variance between adjacent clubs in the set of greater than about 0.6 inches (15.24 mm), and preferably about 0.75 inches (19 mm). The club

length and lie angle of the 9-iron can be approximately equivalent to the club length and lie angle of a prior art 9-iron. For a first standard set of clubs, the 1-iron has an exemplary club length of approximately 41.5 inches (105.4 mm), while the 9-iron has an exemplary club length of approximately 35.5 inches (90.17 mm). Preferably, the lie angle varies between adjacent clubs in the set by greater than about 0.6 degrees, and preferably by about 0.75 degrees. The 1-iron has an exemplary lie angle of approximately 57 degrees, while the 9-iron has an exemplary lie angle of approximately 63 degrees.

Preferably, the golf club set of the present invention further includes a club head weight variance between adjacent clubs in the set of approximately 8 or more grams, and preferably about 9 grams or more.

## **Brief Description of the Drawings**

Fig. 1 is a drawing of a 5-iron golf club from a set of clubs of the present invention, showing the club length and lie angle of the club.

Fig. 2 is a drawing of a 5-iron and a 4-iron from a set of golf clubs in accordance with the present invention.

Fig. 3 is a drawing of a 5-iron and a 6-iron from a set of golf clubs in accordance with the present invention.

## **Description of Preferred Embodiments of the Invention**

Prior art sets of golf clubs have a standard club length variance of about 0.5 inches (12.2 mm) or less between adjacent clubs in the set, and a lie angle variance of about 0.5 degrees between adjacent clubs. Alternately, prior art golf club sets can have a lie angle variance of about 1 degree between every other club in the set, with no lie angle variance between alternating adjacent clubs, as described more fully above. Additionally, prior art golf clubs have

1 a head weight difference of about 6 to 7 grams between adjacent clubs. By “adjacent clubs” or  
2 “adjacently sequenced golf clubs” I mean the clubs that are normally in immediate, sequential  
3 series with one another in a set of golf clubs. For example, the adjacent clubs to a 5-iron are the  
4 4-iron and the 6-iron. A first standard full set of golf clubs typically includes sequentially  
5 adjacent numbered irons 1 through 9, continuing with a respective sequentially adjacent pitching  
6 wedge or wedges, a sand wedge, and a lob wedge. Sets of clubs less than a full set typically  
7 include alternating sequentially clubs, for example, irons 3, 5, 7 and 9, and may exclude or more  
8 of the clubs following the 9-iron, such as the lob wedge and a second pitching wedge.

9 I have found that by increasing the club length variance between adjacent clubs in a set of  
10 golf clubs, a golfer’s performance can be improved. The invention thus includes a set of golf  
11 clubs having a greater range of club lengths than prior art golf club sets. The club lengths of a  
12 set of golf clubs of the present invention generally vary by greater than about 0.6 inches (15.24  
13 mm) between adjacent clubs in the set. Preferably, the club lengths generally vary by between  
14 about 0.6 inches (15.24 mm) and 1 inch (25.4 mm) between adjacent clubs in the set. More  
15 preferably, the club lengths vary by about 0.75 inches (19.05 mm) between adjacent clubs in the  
16 set. A set of golf clubs in accordance with the present invention can be further advantageously  
17 provided with a greater variance in club head weights between adjacent golf clubs over the prior  
18 art, as described more fully below. In addition, a set of golf clubs in accordance with the present  
19 invention can be further advantageously provided with a greater variance in lie angles between  
20 adjacent golf clubs over the prior art, as also described more fully below. In the preferred  
21 embodiment, a set of golf clubs in accordance with the present invention includes all three of  
22 these aspects, although the invention is not to be limited to such an embodiment.

23 The set of clubs in accordance with the present invention can include alternating  
24 sequential adjacent clubs as well. When the set of clubs includes alternating sequential adjacent  
25 clubs, the club lengths vary by greater than about 1.2 inches (30.4 mm) between alternating

1 sequential adjacent clubs in the set. Preferably, the club lengths generally vary by between about  
2 1.2 inches (30.424 mm) and 2 inches (50.8 mm) between alternating sequential adjacent clubs in  
3 the set. More preferably, the club lengths vary by about 1.5 inches (38.1 mm) between  
4 alternating sequential adjacent clubs in the set.

5 The set of golf clubs in accordance with the present invention also preferably has a  
6 greater range of lie angles than prior art golf sets to account for the greater range of club lengths.  
7 The lie angle in the set of golf clubs of the present invention varies by greater than about 0.6  
8 degrees between immediately adjacent clubs in the set. Preferably, the lie angle varies between  
9 about 0.6 degrees and 1 degree between immediately adjacent clubs in the set. More preferably,  
10 the lie angle varies by about 0.75 degrees between immediately adjacent clubs in the set.

11 When the set of clubs includes alternating sequential adjacent clubs, the lie angles vary  
12 by greater than about 1.2 degrees between alternating sequential adjacent clubs in the set.  
13 Preferably, the lie angles generally vary by between about 1.2 degrees and 2 degrees between  
14 alternating sequential adjacent clubs in the set. More preferably, the lie angles vary by about 1.5  
15 degrees between alternating sequential adjacent clubs in the set.

16 The set of golf clubs in accordance with the present invention more preferably has a  
17 greater club head weight difference between immediately adjacent clubs in the set than prior art  
18 golf club sets to account for the greater range of club lengths. The difference in club head  
19 weight of between immediately adjacent clubs in the set golf clubs of the present invention is  
20 approximately 8 or more grams, and preferably about 9 grams or more. A first set of golf clubs  
21 in accordance with the present invention has a head weight variance between adjacent clubs in  
22 the set of approximately 9 grams. A second set of golf clubs in accordance with the present  
23 invention has a head weight variance between adjacent clubs of approximately 10 grams, while a  
24 third set of clubs in accordance with the present invention has a head weigh variance of  
25 approximately 11 grams between adjacent clubs.



Turning to Fig. 1, a 5-iron 10 from a set of golf clubs in accordance with the present invention is shown. The club length is defined as the length  $L_2$  from the ground to the end 17 of the shaft 12 with the club lying in its natural position, which is determined by the geometry of the club head 16 and the sole 18. The club length does not include the end-cap 20. The lie angle  $\theta$  is defined as the angle between the centerline of the shaft 12 and a vertical line N. The difference between a golf club from a set of clubs in accordance with the present invention and a prior art golf club is also depicted in Fig. 1. The length  $L_2$  of the 5-iron 10 of the present invention is 38.5 inches (97.8 mm), as compared to the length  $L_3$  of a prior art 5-iron, which is 37.5 inches (95.3 mm) for a comparable set of golf clubs. Further, the lie angle  $\theta_1$  of the 5-iron 10 is 60 degrees, compared to the lie angle  $\theta_2$  of a prior art 5-iron art, which is 61 degrees.

The difference between adjacent golf clubs in a set of clubs in accordance with the present invention is shown in Figs. 2 and 3. Fig. 2 depicts exemplary golf clubs of the present invention comprising a 4-iron 40 and a 5-iron 50. The 4-iron 40 has a club length  $L_4$  of 39.25 inches (99.7 mm), while the 5-iron 50 has a club length  $L_5$  of 38.5 inches (97.8 mm). In addition, the 4-iron has a lie-angle  $\theta_2$  of 59.25 degrees, and the 5-iron has a lie angle  $\theta_3$  of 60 degrees. By comparison, a prior art 4-iron has a club length of 38 inches (96.5 mm) and a lie angle of 60.5 degrees, while a prior art 5-iron has a club length of 37.5 inches (95.25mm) and a lie angle of 61 degrees.

Fig. 3 depicts exemplary golf clubs of the present invention comprising the 5-iron 50 of Fig. 3, and a 6-iron 60. The dimensions of the 5-iron are given above. The 6-iron 60 has a club length  $L_6$  of 37.75 inches (95.9 mm) and a lie-angle  $\theta_4$  of 60.75 degrees. By comparison, a prior art 6-iron has a club length of 37 inches (94.0 mm) and a lie angle of 61.5 degrees.

A set of golf clubs in accordance with the present invention can comprise a pitching wedge which is adjacent in series to the 9-iron, as well as a first sand-wedge, such that the adjacent clubs in the set comprise an 8-iron, a 9-iron, a pitching wedge, and a first sand wedge.

1 The set of clubs can further include a second sand wedge and a lob wedge, in sequence following  
2 the first sand wedge, as indicated in Table I. Preferably, there is no club length difference  
3 between the 9-iron, the pitching wedge and the first sand wedge, and the lie angle and head  
4 weight of the three clubs are the same. However, the pitching wedge has a greater loft to the  
5 face of the club than does the 9-iron by about 4 degrees. Likewise, the first sand wedge has a  
6 greater loft to the face of the club head than the does pitching wedge by about 4 degrees. This is  
7 indicated in Table II.

8 The second sand wedge and the lob wedge have shaft lengths shorter than the 9-iron  
9 through first sand wedge by about 0.5 inches (12.9 mm). The lie angles of the second sand  
10 wedge and the lob wedge are greater by about 0.6 degrees greater than the lie angles of the 9-iron  
11 through first sand wedge, and more preferably by about 0.75 degrees. Further, the club head  
12 weights of the second sand wedge and the lob wedge are greater than the head weights of the 9-  
13 iron through the first sand wedge by about 10 grams. Preferably, there is no club length  
14 difference between the second sand wedge and the lob, and the lie angle and head weight of the  
15 two clubs are the same. However, the second sand wedge has a greater loft to the face of the  
16 club than does the first sand wedge by about 4 degrees, and the lob wedge has a greater loft to  
17 the face of the club than does the second sand wedge also by about 4 degrees. Table II indicates  
18 these differences and similarities between the 9-iron through the lob wedge in a set of clubs of  
19 the present invention. Thus, in a complete set of clubs in accordance with the present invention,  
20 the variance in club length, lie angle and head weight are not necessarily the same from club to  
21 club, particularly at the short end of the range (i.e., from the 9-iron through the lob wedge).  
22 Accordingly, it is not necessary that all clubs in a set of clubs in accordance with the present  
23 invention have shaft length variances of about 0.75 inches (19.05 mm), or lie angle variances of  
24 about 0.75 degrees, or head weight variances of greater than about 8 grams between adjacent  
25

clubs. It is sufficient that only selected adjacent clubs in the set have one or more of these variances.

Certain golfers perform better with a club length that is different than a standard length. Such typically accounts for the height of the golfer – taller golfers requiring longer clubs (“over-sized” or “plus” clubs), while shorter golfers require shorter clubs (“under-sized” or “minus” clubs). However, the club-to-club variation typically remains unchanged. That is, in the prior art, a first non-standard set of golf clubs can have club lengths 1 inch longer than a standard set, yet the variation in length between the clubs in such a non-standard set remains the same. An aspect of the present invention is providing a non-standard set of clubs having club lengths different than a nominal or standard set of golf clubs in accordance with the present invention, but still having a variation in club length between adjacent clubs of greater than about 0.6 inches (15.2 mm), and more preferably a variation in club length between adjacent clubs of about 0.75 inches (19.1 mm).

In addition to having a greater range of club lengths and lie angles than do prior art golf club sets, a set of golf clubs in accordance with the present invention can comprise a greater range of head weights than clubs of the prior art. Prior art golf club heads for irons increase by about 6 grams between adjacent clubs starting with the 1-iron through the 4-iron, and by about 7 grams between adjacent clubs starting with the 5-iron through the 9-iron. A further aspect of the present invention includes increasing the club head weight of adjacent golf clubs in a set of clubs by about 8 grams or more between adjacent clubs. Preferably, the weight is increased across a portion of the range of clubs, starting with the 1-iron through the 9 iron. More preferably, the club head weight is increased by between about 9 grams and 11 grams between adjacent clubs. For example, a prior art 1-iron has a club head weight of about 231 grams, and a prior art 2-iron has a club head weight of about 237 grams. By comparison, a 1-iron and a 2-iron in accordance with the present invention have club head weights of 206 and 217 grams, respectively.

1 It is understood that the club weights given in the above paragraph are exemplary only.  
2 For example, the 1-iron of the present invention can have a club head weight of about 200 grams,  
3 while the 2-iron will have a club head weight of about 211 grams. In either instance, the  
4 variation in club head weight between adjacent clubs in a set of clubs in accordance with the  
5 present invention varies by about 8 grams or more between selected adjacent clubs in the set.  
6

### 7 **Example**

8 Tables I and II below give exemplary values for three standard sets of golf clubs in  
9 accordance with the present invention. Table I is a table for a first standard set of clubs including  
10 a 1-iron through a 9-iron, and including a pitching wedge, a first and second sand wedge, and a  
11 lob wedge. Table I compares the shaft lengths, lie angles, and head weight for this first set of  
12 clubs to a prior art set of comparable golf clubs. Table II is a table for a second and third  
13 standard set of clubs including a driver similar to those shown in Table I, except that in the  
14 second set of clubs the head weigh variance between selected clubs is 10 grams, and in the third  
15 set of clubs the head weight variance between selected clubs is 11 grams.

16 It is understood that a set of golf clubs of the present invention does not need to include  
17 all of the clubs in what is generally known to be a complete set of clubs, as represented in the  
18 tables, or that the variances indicated herein must be applied to each and every adjacent club in  
19 the set. A set of golf clubs in accordance with the present invention can include as few as two  
20 golf clubs. Further, it is understood that the exact numerical values shown in the tables are  
21 exemplary only, and that the tables do not reflect over- or under-sized golf club sets, nor the  
22 range of club head weights which may be selected by a particular golfer for a particular club.  
23 The tables do however demonstrate the desirable variation in club length, lie angle, and head  
24 weight between adjacent golf clubs in the set.  
25

TABLE I: A FIRST STANDARD SET OF GOLF CLUBS OF THE PRESENT INVENTION,  
AS COMPARED TO A FIRST STANDARD SET OF PRIOR ART GOLF CLUBS

Club No.	Club length inches (mm)	Prior Art Club length inches (mm)	Lie angle (degrees)	Prior art Lie angle (degrees)	Club head Weight (grams)	Prior art Club head weight (gm)
1-iron	41.5 (105.4)	39.5 (100.3)	57	59	208	231
2-iron	40.75 (103.5)	39 (99.1)	57.75	59.5	217	237
3-iron	40 (101.6)	38.5 (97.8)	58.5	60	226	243
4-iron	39.25 (99.7)	38 (96.5)	59.25	60.5	235	249
5-iron	38.5 (97.8)	37.5 (95.3)	60	61	244	256
6-iron	37.75 (95.9)	37 (94.0)	60.75	61.5	253	263
7-iron	37 (94.0)	36.5 (92.7)	61.5	62	262	269
8-iron	36.25 (92.1)	36 (91.4)	62.25	62.5	271	276
9-iron	35.5 (90.2)	35.5 (90.2)	63	63	280	284
Pitching Wedge	35.5 (90.2)	35.5 (90.2)	63	63	280	285
Sand wedge-1	35 (88.9)	35.5 (90.2)	63	63.5	280	296
Sand wedge-2	35 (88.9)	35 (88.9)	63.75		290	
Lob wedge	35 (88.9)	35 (88.9)	63.75		290	

TABLE II: A SECOND AND THIRD STANDARD SET OF GOLF CLUBS OF THE  
PRESENT INVENTION

Club No.	Club length inches (mm)	Lie angle (degrees)	Club head Weight of 2 <sup>nd</sup> set (grams)	Club head Weight of 3 <sup>rd</sup> set (gm)
<b>1-iron</b>	41.5 (105.4)	57	202	200
<b>2-iron</b>	40.75 (103.5)	57.75	215	211
<b>3-iron</b>	40 (101.6)	58.5	225	222
<b>4-iron</b>	39.25 (99.7)	59.25	235	233
<b>5-iron</b>	38.5 (97.8)	60	245	244
<b>6-iron</b>	37.75 (95.9)	60.75	255	255
<b>7-iron</b>	37 (94.0)	61.5	265	266
<b>8-iron</b>	36.25 (92.1)	62.25	275	277
<b>9-iron</b>	35.5 (90.2)	63	285	288
<b>Pitching Wedge</b>	35.5 (90.2)	63	285	288
<b>Sand wedge-1</b>	35 (88.9)	63	285	288
<b>Sand wedge-2</b>	35 (88.9)	63.75	295	299
<b>Lob wedge</b>	35 (88.9)	63.75	295	299

1 While the above invention has been described with particularity to specific embodiments  
2 and examples thereof, it is understood that the invention comprises the general novel concepts  
3 disclosed by the disclosure provided herein, as well as those specific embodiments and  
4 examples.

1 I claim:

2 1. A set of golf clubs comprising a plurality of adjacently sequenced golf clubs, wherein a  
3 first golf club in the set has a club length at least about 0.6 inches longer than a second adjacent  
4 golf club in the set.

5  
6 2. The set of golf clubs of claim 1 wherein the first golf club in the set has a club length  
7 between about 0.6 inches and 1 inch longer than the second adjacent golf club in the set.

8  
9 3. The set of golf clubs of claim 1 wherein the first golf club in the set has a club length of  
10 about 0.75 inches longer than the second adjacent golf club in the set.

11  
12 4. The set of golf clubs of claim 1 further comprising a third golf club in the set, the first,  
13 second and third golf clubs being respectively sequentially adjacent to one another, and wherein  
14 the second golf club has a club length at least about 0.6 inches longer than the third golf club.

15  
16 5. The set of golf clubs of claim 1 wherein the first golf club in the set has a lie angle at  
17 least about 0.6 degrees less than the second adjacent golf club in the set.

18  
19 6. The set of golf clubs of claim 5 wherein the first golf club in the set has a lie angle  
20 between about 0.6 degrees and 1 degree less than the second adjacent golf club in the set.

21  
22 7. The set of golf clubs of claim 5 wherein the first golf club in the set has a lie angle about  
23 0.75 degrees less than the second adjacent golf club in the set.

24

25



1 8. The set of golf clubs of claim 4 wherein the second golf club has a lie angle at least about  
2 0.6 degrees less than the third golf club.

3  
4 9. The set of golf clubs of claim 8 wherein the second golf club has a lie angle about 0.75  
5 degrees less than the third golf club.

6  
7 10. The set of golf clubs of claim 1 wherein the first golf club in the set has a club head  
8 weight at least about 8 grams less than the second adjacent golf club in the set.

9  
10 11. The set of golf clubs of claim 1 wherein the first golf club in the set has a club head  
11 weight between about 8 grams and 12 grams less than the second adjacent golf club in the set.

12  
13 12. The set of golf clubs of claim 1 wherein the first golf club in the set has a club head  
14 weight of at least about 9 grams less than the second adjacent golf club in the set.

15  
16 13. The set of golf clubs of claim 8 wherein the second golf club has a club head weight of at  
17 least about 9 grams less than the third golf club.

18  
19 14. The set of golf clubs of claim 7 wherein the second golf club has a club head weight of at  
20 least about 9 grams less than the third golf club.

21  
22 15. A set of golf clubs comprising a plurality of alternating sequential adjacent golf clubs,  
23 wherein a first golf club in the set has a club length at least about 1.2 inches longer than a second  
24 alternating sequential adjacent golf club in the set.

1 16. The set of golf clubs of claim 15 wherein the first golf club in the set has a club length  
2 between about 1.2 inches and 2 inch longer than the second alternating sequential adjacent golf  
3 club in the set.

4  
5 17. The set of golf clubs of claim 15 wherein the first golf club in the set has a club length of  
6 about 1.5 inches longer than the second alternating sequential adjacent golf club in the set.

7  
8 18. The set of golf clubs of claim 16 wherein the first golf club in the set has a lie angle  
9 between about 1.2 degrees and 2 degrees less than the second alternating sequential adjacent golf  
10 club in the set.

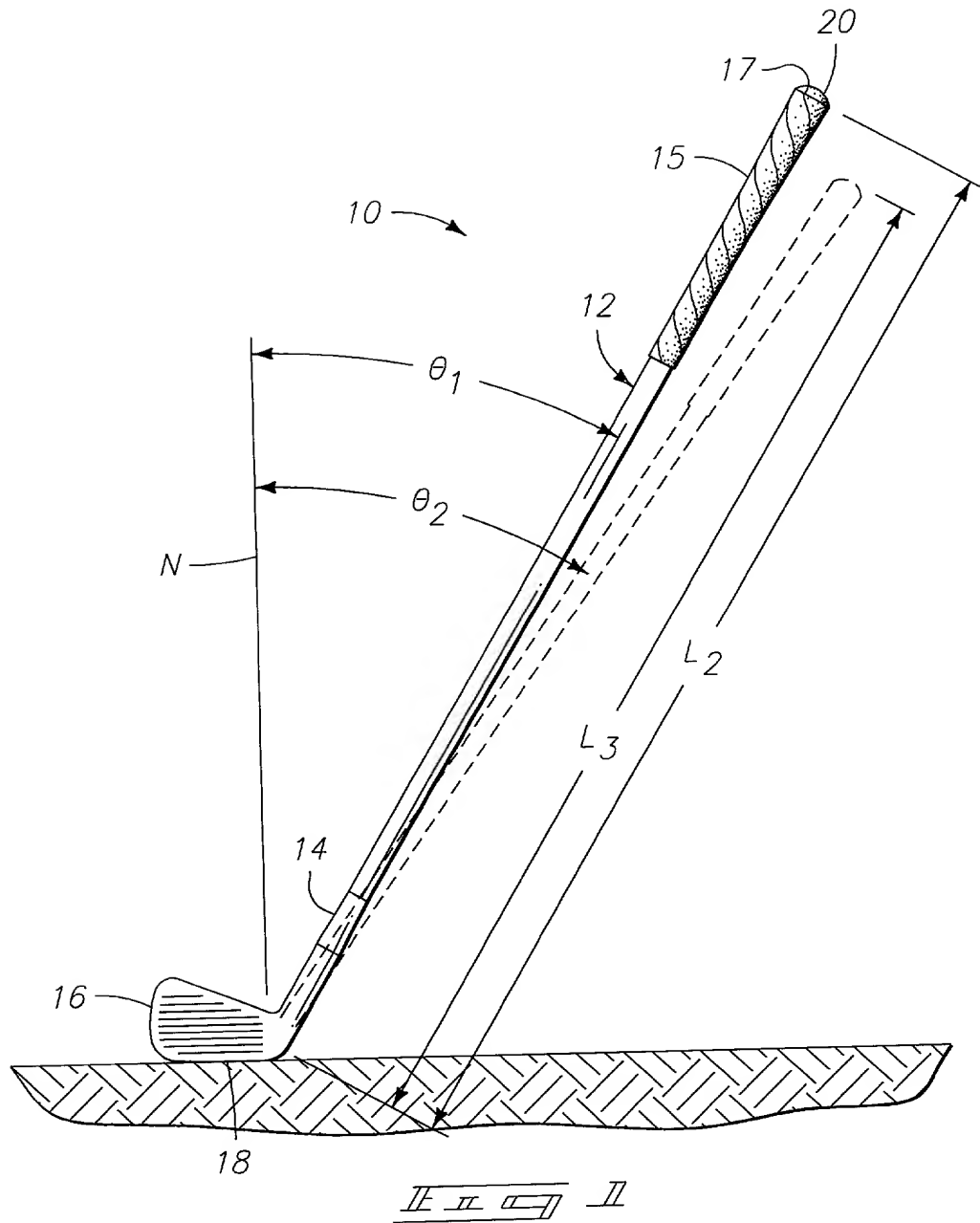
11  
12 19. The set of golf clubs of claim 17 wherein the first golf club in the set has a lie angle of  
13 about 1.5 degrees less than the second alternating sequential adjacent golf club in the set.

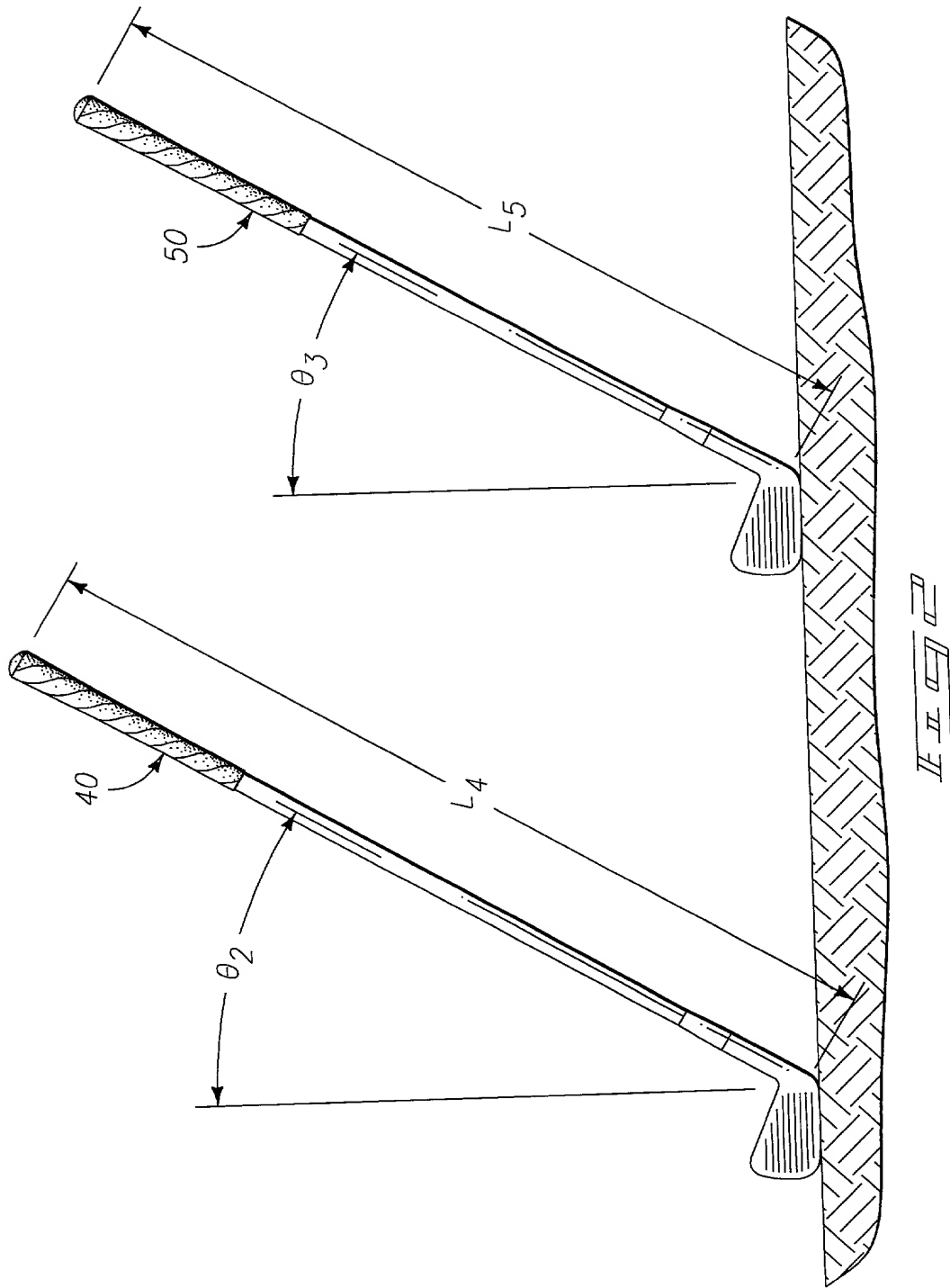
14  
15 20. The set of golf clubs of claim 16 wherein the first golf club in the set has a club head  
16 weight at least about 16 grams less than the second alternating sequential golf club in the set.

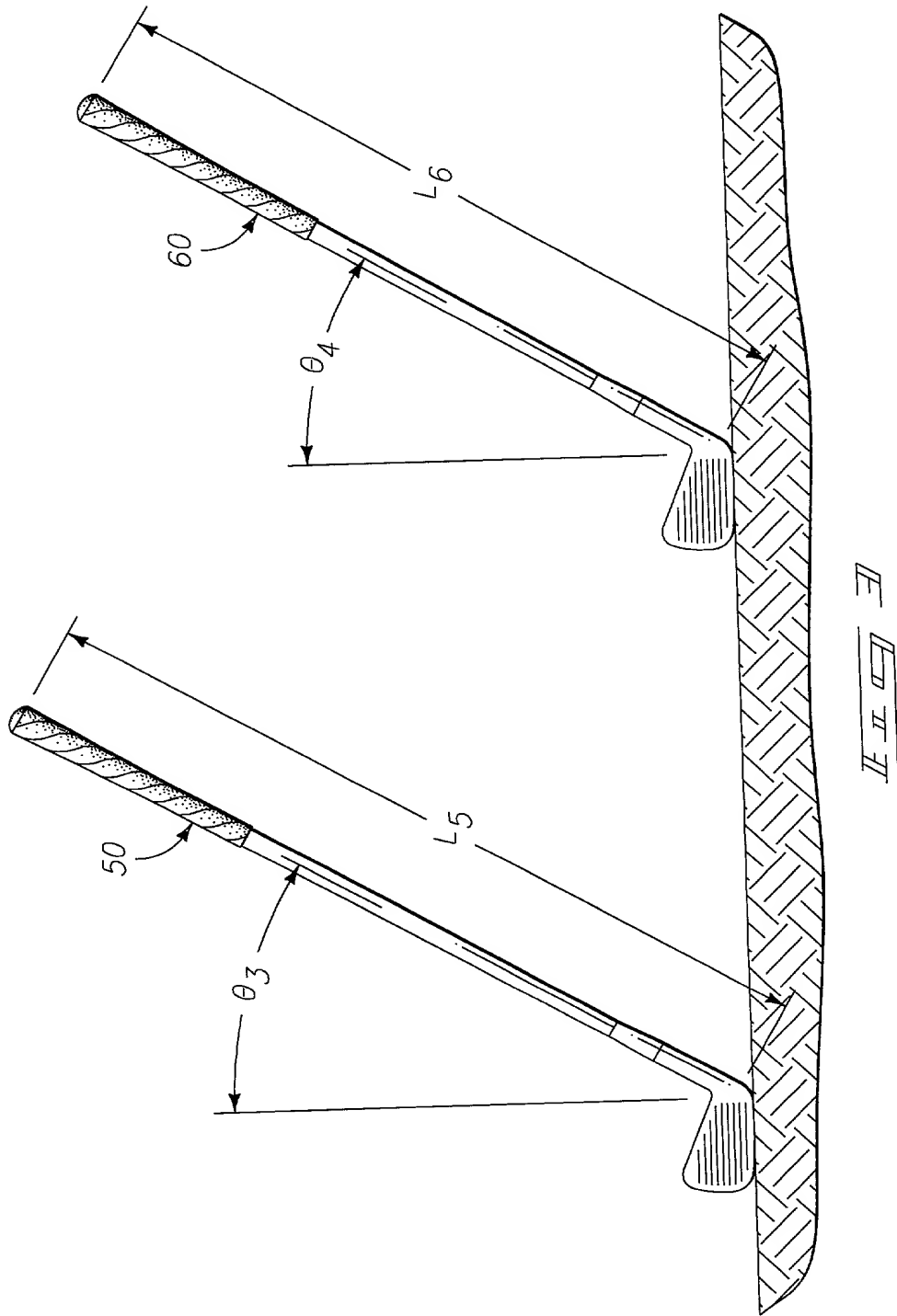
17  
18 21. The set of golf clubs of claim 18 wherein the first golf club in the set has a club head  
19 weight at least about 16 grams less than the second alternating sequential golf club in the set.

1 ABSTRACT

2 A set of golf clubs wherein the club length varies between adjacent clubs in the set by at  
3 least about 0.6 inches (15.24 mm), and preferably by about 0.75 inches (19 mm). Preferably, the  
4 lie angle between adjacent clubs in the set varies by greater than about 0.6 degrees, and  
5 preferably by about 0.75 degrees. More preferably, the club head weight varies between adjacent  
6 clubs in the set by at least about 8 grams, and preferably by between about 9 grams and 11  
7 grams. The club length and lie angle of the 9-iron can be approximately equivalent to the club  
8 length and lie angle of a prior art 9-iron. For a first standard set of clubs, the 1-iron has an  
9 exemplary club length of approximately 41.5 inches (105.4 mm), and the 9-iron has an  
10 exemplary club length of approximately 35.5 inches (90.17 mm). The 1-iron has an exemplary  
11 lie angle of approximately 57 degrees, while the 9-iron has an exemplary lie angle of  
12 approximately 63 degrees.  
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**DECLARATION OF SOLE INVENTOR FOR PATENT APPLICATION**

As the below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled: GOLF CLUB SET, the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations §1.56.

**PRIOR FOREIGN APPLICATIONS:**

I hereby state that no applications for foreign patents or inventor's certificates have been filed prior to the date of execution of this declaration.

**POWER OF ATTORNEY:**

As the sole Inventor, I hereby appoint the following attorney to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: John S. Reid, Reg. No. 36,369.

Send correspondence to: John S. Reid, South 1926 Valleyview Lane,  
Spokane, WA 99212-0157. Direct telephone calls to: (509) 534-5789, fax  
(509) 532-0351.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be

1 true; and further that these statements were made with the knowledge that willful  
2 false statements and the like so made are punishable by fine or imprisonment, or  
3 both, under Section 1001 of Title 18 of the United States Code and that such  
4 willful false statement may jeopardize the validity of the application or any patent  
5 issued therefrom.

6  
7 \* \* \* \* \*

8 Full name of inventor: Randy Henry

9 Inventor's Signature: Randy Henry

10 Date: 7/20/99

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTORSHIP ..... Randy Henry  
ASSIGNEE ..... Henry-Griffitts, Inc.  
ATTORNEY DOCKET NO. .... HE01-003  
TITLE:      **Golf Club Set**

Assistant Commissioner for Patents  
Washington, D.C. 20231

POWER OF ATTORNEY

The undersigned, being the assignee of the full right, title and interest in the invention titled "Golf Club Set", for which an application for a United State patent is being filed concurrently herewith, hereby appoint the following attorney to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: John S. Reid, Reg. No. 36,369, located at 1926 South Valleyview Lane, Spokane, WA 99212-0157, telephone Area Code (509) 534-5789, facsimile (509) 532-0351.

Please direct all inquiries to John S. Reid at the above address and telephone number.

Assignee: Henry-Griffitts, Inc.

By: 

Ross. D. Henry  
President, Henry-Griffitts, Inc.

Date: 4-19-99